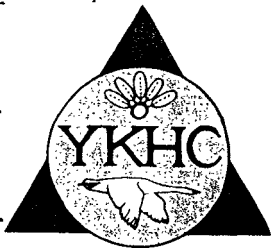


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Yukon-Kuskokwim Health Corporation

Community Health Aide Program

"Fostering Native Self-Determination in Primary Care, Prevention and Health Promotion"

HEALTH AIDE SERVICES
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September 26, 1997

Leo J. Nolan, Acting Associate Director
Office of Planning, Evaluation and Health Statistics
Indian Health Service
12300 Twinbrook Parkway, suite 450
Rockville, MD 20852

Dear Mr. Nolan,

Enclosed is a copy of the final report for The Evaluation of Selected Village-Based Woman's Preventative Health Service Delivered by Community Health Aides, Project Number E-14-97. If you have any questions please contact me at (907) 543-6145.

Sincerely,

Donn Bennice, Ph.D.
Director of Village Operations

**POLICY INFORMATION
CENTER**

Final Report on Evaluation Results for OPEL Grant # 96-N-16,
Evaluation of Village-Based Women's Preventive Health Services by
Community Health Aides/Practitioners

July, 1997

Introduction

The purpose of this study was to evaluate two related pilot project initiatives recently implemented to increase the prevalence of cervical and breast cancer screening and STD screening, and reduce tobacco use among Native women in isolated villages in Southwest rural Alaska through Community Health Aides/ Practitioners (CHA/Ps) in village-based clinics. Long term, comprehensive evaluation was needed to determine if the Yukon Kuskokwim Health Corporation (YKHC), the largest health corporation in rural Alaska, should expand access to these village-based preventive health services through training of all CHA/Ps in the region with additional community health education. This project was conducted by the Yukon Kuskokwim Health Corporation with consultation and technical assistance provided by the Alaska Area Native Health Service.

The population involved were approximately 1400 women over 18 years of age, predominantly Yup'ik Eskimo, in eight out of the 50 remote village communities served by the YKHC. Eight CHA/Ps in four of these communities had training at the end of August, 1995 and middle of September, 1995 to enable them to acquire skills necessary to provide preventive health services in the clinic, and also received training to provide health education messages to the community. Training materials and community education materials were used that have been developed specifically for Alaskan Natives. Four other comparable communities selected as controls received services normally provided by itinerant health workers. It should be noted that because of changes in itinerant personnel, variations in background, training and interest of the itinerants, and position vacancies, services were not always provided on a regular basis.

The Yukon Kuskokwim Delta Region is an area in Southwest/Rural Alaska about the size of the state of South Dakota located about 400 air miles from Anchorage with a total population of over 20,000. The area is composed of 50 remote Eskimo and Athabascan Indian villages ranging in population from approximately 50 to 1,000 with the city of Bethel as the Hub. The population of Bethel is estimated at 5,000 to 6,000. The region is characterized by severely limited access to specific types of health services, particularly preventive health services, because of geographic inaccessibility, weather, transportation costs, and various socio-economic factors.

This project was of highest priority because it was directed toward reducing the excess morbidity and mortality from preventable diseases; lung cancer, cervical cancer, breast cancer, and sexually transmitted diseases (STDs). For example, death from cervical and lung cancer should be preventable, yet death rates for Alaska Native women exceed those of the US several fold. Cervical cancer mortality rates from Alaska Native women are about one and one-half times the rate among nonnatives. Death from lung cancer in Alaska Native women is twice that of US women and higher than all other populations of American Indian women.

In 1988-89 YKHC assessed the status of women's health particularly cervical cancer screening, and developed a strategic plan to address the significant unmet needs. One component of that plan was to provide cancer screening services as well as STD screening services to women in their communities of residence to the greatest extent possible. Because of the organization of the health care delivery system, provision of services would have to be provided mainly by the village primary care providers, specifically the CHA/Ps. These providers are unique to Alaska, and undergo a standard training program which does not include pap smears and pelvic examinations. They are often the only provider in the over 200 rural Native communities and serve as primary care providers for at least half of the Alaska Native population.

This program evaluation study allowed additional time and resources to adequately evaluate the two related initiatives. Through an NCI supported project four health aides in two villages have been trained to provide cervical cancer screening services. Although the initial NCI grant was fully approved, full support was not provided and the investigators were awarded support for only a pilot project. Funding for the pilot project terminated March 31, 1996. Evaluation support from this project was limited to process evaluation and the period of evaluation limited to five months.

Additional training funds (\$20,000) were awarded to YKHC from the CDC Breast and Cervical Cancer Early Detection and Prevention Grant given to the State of Alaska. These funds allowed for training of four additional CHA/Ps from two other villages not covered by the NCI project. State funding terminated September, 1995. Funding provided support for training but not for evaluation.

The evaluation of the pilot project included comparison of screening rates in the intervention and control villages after CHA/P training in the four intervention villages of: Paps, breast exams, STDs, tobacco education; assessment of quality of Pap smears and cervical cancer screening services provided by CHA/Ps; consumers satisfaction survey of selective services provided by CHA/Ps as compared to other health care providers; and evaluation of effectiveness of community health education intervention. Evaluation was

extended for 18 months after initial health aide training to address the impact and feasibility of sustaining the initiatives.

Results of this project would be of value to other Native health corporations in determining whether they too, would adopt a similar strategy. There are eleven other major native regional health corporations delivering health care in Alaska, as well as smaller tribal programs. Documentation of delivery of high quality, efficacious, culturally appropriate services by community providers could have important implications for delivery of screening and prevention services by paraprofessionals in rural areas outside of Alaska as well.

The initiatives and the expanded evaluation component directly address the Year 2000 objectives for Special Populations: to assure American Indians/Alaska Natives receive at least the minimum screening services recommended by the US Preventive Services Task Force. They also address the objectives of the Alaska Area to increase cancer prevention and screening and reduce morbidity and mortality from lung, breast and cervical cancer.

One limitation to the evaluation was the small sample size used in the pilot project which only represents a small portion of the villages and women served by the YKHC. Another limitation was an infrastructure system problem. The YKHC computer Pap tracking information system is not currently capable of distinguishing between village-based women's cancer prevention and early detection services and those provided in the hospital, or between services provided by CHA/Ps and other types of providers such as Physicians, Public Health Nurses (PHNs), Nurse Practitioners and Physician Assistants. This problem put a major constraint on time and caused some duplication of services as we developed our own tracking system for health aides and tabulated provider visits manually in order to sort out location and provider types. A task force has recently been established to address this issue and make the necessary corrections so that one YKHV system can support tracking these services for all providers and locations.

Study Design, Sampling, Information Collection and Analysis Methods

The evaluation study design addressed the following four components:

1. Impact on screening prevalence rates for selected diseases/behaviors.
2. Quality assurance of preventive health services delivered by CHA/Ps.
3. Consumer satisfaction with the CHA/P-delivered preventive health services.
4. Effectiveness of community education/client patient education.

Study design strategies, sampling procedures and methods of analysis for each component are described below:

Component 1: Impact of screening prevalence rates for selected diseases/behaviors

Cervical cancer screening rates were obtained by utilizing existing baseline data which includes all women ages 19 to 75 in the four intervention and the four control villages potentially eligible for screening services, and overdue Paps for the eligible women. The number of women, ages 19 to 75, screened for cervical cancer before initiation of the CHA/P training and community education components was tabulated. Utilizing the Bethel Pap registry and village medical chart review, the number of women, ages 19 to 75 in all eight villages, screened for cervical cancer after initiation of the CHA/P training and community education components was tabulated. A comparison of the screening in the intervention and control villages following the date of start up in the intervention villages was also tabulated. Time series data was collected and analyzed for an eighteen month period after initial training.

Breast cancer screening rates were obtained utilizing village medical chart review and CHA/P patient logs. A comparison of breast exams performed for women, ages 19 to 75 in the intervention and control villages for eighteen months following the start up dates in the intervention village was monitored. Time series data was collected and analyzed.

STD screening rates consisting of the number of women, ages 19 to 75 screened for Chlamydia and Gonorrhea, were obtained and analyzed as above.

Tobacco use survey rates were obtained through medical chart review of eligible women. The number of women who were queried regarding tobacco use status (cigarettes, chew) and the documentation of status in the medical chart was monitored by the same methodology as above.

All data collection, data entry, and data analysis and reports were done by the nurse practitioner project coordinator with assistance from the NCI pilot project grant statistician, Alaska Area Native Health Services consultant, YKHC Health Planner, YKHC Medical Director and YKHC Community Health Aide Program office staff.

Component 2: Quality assurance of preventive health services delivered by CHA/Ps.

At approximately six months and eighteen months post training of the eight Health Aides in the project, study villages were visited by the nurse practitioner, supervisor/project coordinator to review charts to assess the adequacy of the documentation of all preventive health services on the village medical record and to provide a comprehensive observation of the conduct and adequacy of examination and client counseling skills. Ongoing

monitoring and evaluation was accomplished through review of all patient encounter forms and patient logs for appropriate documentation, practice and referral of abnormal exams for patients receiving specified preventive services. Besides field supervision visits, feedback was provided to intervention village health aides in the form of frequent phone contact, Pap adequacy letters, support and encouragement. A phone log was established to monitor their questions, problems and concerns and plans to address them, and a Women's Health Care log sheet was developed and implemented to track all Paps, breast exams and STD checks done by the CHA/Ps.

Pap smear reports were reviewed and monitored by the nurse practitioner project coordinator to assess: a) documentation of the key elements required to be entered on the report by the provider; and b) the quality of the smear (unsatisfactory, broken, inadequate cells, no ECCs when should be present, etc.). All Pap smears were sent to Bethel and then outside of Alaska to the same contract cytopathology lab. (Pap smears performed on all MS beneficiaries are read under contract by the same lab).

Component 3: Consumer satisfaction with the CHA/P-delivered preventive health services

A standard survey instrument consisting of 42 questions was developed with assistance and approval from the Alaska Area Native Health Service and the YKHC Health Planner who is experienced in developing and conducting health surveys in the Yukon-Kuskokwim Delta. A stratified random sample of 25 women from each of the four intervention villages were surveyed regarding their experience and satisfaction with the screening services provided by CHA/Ps in village clinics. A list was generated from the YKHC hospital computer system of all women currently living in each of the intervention villages between the ages of 19 and 75. Women were stratified into 2 subgroups according to age range distribution in each village. The 2 group age ranges were 19-39 and 39-75. A total of 100 women out of 696 eligible women were interviewed. A table of random numbers was used to randomly select women from the list to interview; and 3 randomized lists of 25 each for each subgroup was used to get an adequate sample/after excluding women who were unavailable or not interested in being interviewed. For comparison purposes, the survey included questions about preventive health services provided by other providers (itinerant PHNs, nurse practitioners, physician assistants, physicians) as they are currently delivered in village settings and in Bethel clinics settings. All surveys were conducted by the same person, the project coordinator with the help of Yup'ik translators when necessary. Face to face interviews were conducted either in the village clinic or in women's homes per their request and lasted about 20 to 30 minutes. A small gift was given to each participant in appreciation for their participation.

Through random sampling of women, both users and non-users of village-based preventive health services by Health Aides were surveyed. Issues addressed in this survey focused on measures of satisfaction including: whether the services received were felt to be satisfactory; whether services in Bethel are perceived to be “better”; were there hygiene concerns (where services are provided in clinics without plumbing); were women in villages comfortable discussing very personal issues with someone whom they may know well or to whom they are even closely related; and whether women have a preference regarding the gender of the provider and/or the type (professional degree) of the provider. Opportunity was provided for open suggestions about improvement of services. No patient identifiers were used to protect patient confidentiality and anonymity. Data collected was coded and analyzed for results in order to determine the experience and satisfaction of women living in villages with women’s preventive health services provided by CHA/Ps in village clinics as compared to screening services delivered by other itinerant providers and with Bethel based clinicians, and identify barriers to utilization of village-based services provided by CHA/Ps

Component 4: Effectiveness of community education/client patient education.

A multi-faceted community education approach was used to educate women in the intervention villages about women’s health care issues. Culture based materials were used including the “Pap Test” and the “Breast Cancer Screening: A Healthy Habit for Life” brochures and the Birthday Gift” and “The gift of Health: A woman’s Path to Wellness” videos. A poster, written in both English and Yup’ik, was developed to distribute to the intervention villages. The artwork was done by a local artist, and the message was created by the Health Aides in the project. One-on-one education by CHA/Ps with the patient at the time of her annual women’s health check-up was implemented. A “Women’s Night Out” community education event was planned and implemented in two of the intervention villages using food and door prizes as incentives for women to participate. Focus groups were conducted and facilitated by the project coordinator with assistance from the CHA/Ps in those villages to get input as to the best methods and strategies for delivering public education, and to collect information regarding their knowledge, attitude, and behaviors about preventive services, cancer screening examinations, knowledge of causes, perceptions of susceptibility, risk factors, treatment, and curability of cancer. Comments were recorded without using any participant identifiers. In one village 33 women attended the event. Turnout was excellent due to the recruitment efforts of the CHA/Ps in that

village. Only 9 women showed up for a similar event in the other village. Turnout may have been poor due to an oversight of inadvertently scheduling the event on the day of a religious holiday when many families attended church. After the focus groups, the two videos described above were shown and women had an opportunity to ask questions and discuss the videos. Data collected was analyzed for results in-order to plan relevant community education strategies.

Results

Component 1: Impact on screening Prevalence rates for selected diseases/behaviors.

Cervical cancer screening rates were collected after initial CHAR training from September 1, 1995 through February 28, 1997, a period of eighteen months. The total number of eligible women between 19 and 75 years of age in the 4 intervention and 4 control villages for the study is 1358; 696 from intervention villages and 662 from control villages. Data was taken from patient logs kept by the CHA/Ps and Public Health Nurses and the YKHC computer based medical records and Pap registry. The CHA/Ps in the 4 intervention villages saw a total of 187 patients who had at least one Pap smear during the study period, and for whom a total of 256 Paps were performed. About 64% of these women seen for Paps were less than 40 years of age and about 36% were 40 years or over. About 34% of these Paps were abnormal, with no result higher than LGSIL. No Paps were done by CHA/Ps in the control villages.

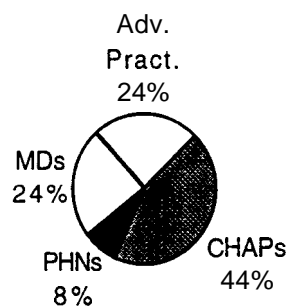
The following chart shows a breakdown of Paps by Health Aide in each village

CHA/P	Village	#Annual s	#Paps	#Repeats	#NI Paps	#Abnl
#1	#1	56	69	13	51	18
#2	#1	22	31	9	25	6
#3	#2	15	19	4	12	7
#4	#2	19	28	9	16	12
#5	#3	19	29	10	14	15
#6	#3	20	36	16	24	12
#7	#4	11	14	3	5	9
#8	#4	25	30	5	21	9
Totals		187	256	69	168	88 (34%)

Both CHA/Ps #3 and #7 were on maternity leave for 4 to 6 months during the study period which accounts for their lower numbers. Also, CHA/P quit working as a health aide about mid study period.

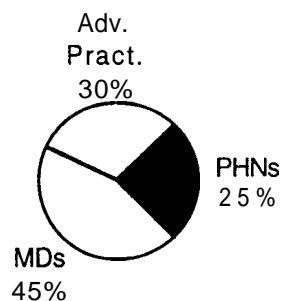
About 44% of the total Paps done by all providers in the intervention group during the study period were done by CHA/Ps. The cervical cancer screening prevalence rates (at least one Pap smear in 18 months) for intervention villages by all providers was about 50% and only about 37% for the control villages where no CHA/Ps performed Paps. Provider categories include health aides, public health nurses, physicians and advanced practitioners. Advanced practitioner providers is one category and includes certified nurse midwives, nurse practitioners, and physician's assistants. The following 2 charts show the percentages of Paps done by provider types during study period:

Intervention Group



346 women (of the 696) received
584 Pap smears

Control Group



243 women (of the 662) received
367 Pap smears

Interpretation of the significance of women's cancer and STD screening rates may be difficult due to two changes in how these services were delivered during the study period. In February of 1996 the YKHC implemented the Group Practice Model of patient care delivery. Before that time there was a Maternal Child Health (MCH) Department which provided primarily women's health care. According to a study done from 1992 to 1994, the majority of Pap smears for women in the Y-K Delta were done by advanced practice providers working in MCH. At that time the Pap screening prevalence rate was reported to be about 62% (at least one Pap smear over a 2 year period). It is possible that fewer Pap smears are being performed by all providers since MCH no longer exists. Also, in the winter of 1996, the State of Alaska PHNs had training in providing breast and cervical cancer and STD screening for women in villages. For several months, field supervision occurred in villages which increased the number of Paps being done by itinerant PHNs during that time period.

Breast cancer screening rates were collected after initial CHA/P training from September 1, 1995 through February 28, 1997, a period of eighteen months. The total number of eligible women between 19 and 75 years of age in the 4 intervention and 4 control villages for the study is 1358; 696 from intervention villages and 662 from control villages. Data was collected from CHA/P patient logs, patient- encounter forms and YKHC computer based medical records. There is no baseline data for breast cancer screening prevalence before or after pilot project intervention.

There were 266 women seen by CHA/Ps for women's cancer and/or STD screening services in the 4 intervention villages during the eighteen month study period. Of those 266 women, 194 of them had clinical breast exams, and 192 (99%) of them were taught to perform self breast exam. Of those 194 women who had clinical breast exams, 96 (49.5%) of them were over 40 years old. Of those same 194 clinical breast exams, 177 were recorded as normal and 17 (about 9%) were reported as having abnormal findings. There were 7 of the 17 who had diagnostic mammograms, and 2 of them were referred to surgery clinic. One malignancy was found. There were two additional women from the YKHC health care system, seen by other providers, diagnosed with breast cancer during the study period. No clinical breast exams were performed by CHA/Ps in the control villages during the study period.

STD screening rates were collected through CHA/P patient logs and the YKHC computer lab results. Of the 266 women seen for women's preventive health screening, 179 (67%) of them were screened for Chlamydia (CT) and Gonorrhea (GC). There were 9 (5%) positive Chlamydia tests and 3 (1.7%) positive Gonorrhea tests. As the CHA/Ps gained skill and confidence in addressing issues of sexual health, and understanding of the need for universal STD screening, their STD screening rates went up to 76% for the last 6 months of the study period. There is no baseline data regarding screening prevalence rates for CT and GC in village clinics by itinerant providers. STD tests were not done by control village CHA/Ps during the study period and similar to Paps and clinical breast exams, are not being performed by CHA/Ps in any other village clinics.

Tobacco use auerv rates were collected through a chart review of women seen by CHA/Ps in intervention villages for women's cancer and STD screening visits. Another chart review was done from a random sample of 100 patient encounter forms, for all types of patient visits, for each of the 4 CHA/Ps in the intervention pilot and for 2 CHA/Ps from each of the 4 control villages who worked during the eighteen month study period. Patient encounter forms were reviewed to determine whether there was any documentation of tobacco use including chew, snuff and cigarette use. The overall tobacco query rate for CHA/Ps in the intervention group during women's prevention health visits was about

69%. For the intervention village CHA/P random sample of chart review of all types of visits for men and women over 18 years old, the overall tobacco query rate was 2.4%. The overall tobacco query rate for the control group for all types of visits for men and women over 18 years old was 3.8%.

The following table compares tobacco use query rates between intervention and control CHA/Ps for all types of visits and for the intervention group, women's preventive health visits:

Interven Group Q CHA/Ps	##of Queries types of	# All types of visits	# of Queries	# WH care visits	Control Group CHPs	# of Queries	# All types of visits
#1	4%	100	758 (82%)	1	#1	4%	100
#2	2%	100	28 (85%)	33	#2	9%	100
#3	3%	100	9 (47%)	19	#3	1%	100
#4	3%	100	16 (57%)	28	#4	2%	100
#5	5%	100	18 (62%)	29	#5	2%	100
#6	2%	100	24 (65%)	37	#6	3%	100
#7	0%	100	7 (43%)	16	#7	3%	100
#8	0%	100	23 (70%)	33	#8	1%	100
Overall Rate	2.4%		69%			3.8%	

Component 2: Quality assurance of preventive health services delivered by CHA/Ps.

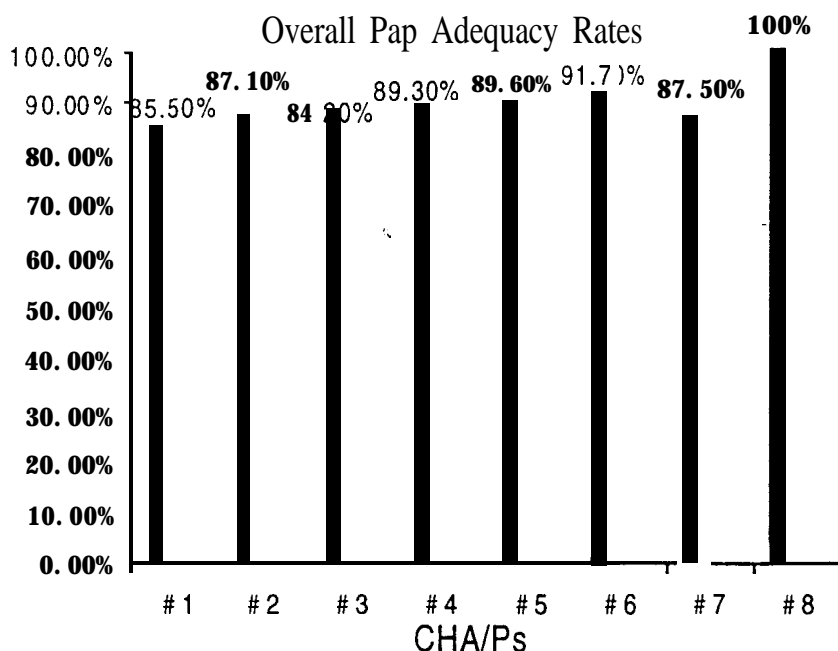
Observation, practice, reinforcement, and assessment of clinical skills for pelvic exams including Pap smears and Chlamydia and Gonorrhea tests and for clinical breast exams was accomplished during field supervision immediately following initial training in September and October of 1995 and again at approximately six months and 18 months post training. At 6 months post training all 8 of the CHA/Ps in the project continued to rate competent in all of these areas, using a comprehensive skills checklist for evaluation. At 18 months 6 of the CHA/Ps were evaluated and all 6 continued to rate competent to perform women's preventive screening services. One of the health aides quit the program and one was unavailable for evaluation at that time. Abnormal findings on breast and speculum exams were reported to referral MDs during scheduled telephone medical traffic.

Abnormal Pap smears were managed through YKHC Specialty Clinic's Pap registry **which is** responsible for coordinating the follow-up of abnormal Pap smears for YKHC health care providers, including village-based providers, and abnormal STD tests were managed through the YKHC hospital lab which is responsible for referring the follow up of abnormal tests to the appropriate MD providers for each village. Medical chart review and patient log review showed that improvement occurred whenever counseling was done for any deficiencies noted in documentation, practice or referral. Infrastructure system problems were addressed as they came up.

There may have been some limitation in our ability to adequately monitor the ongoing quality of breast clinical examinations and specimens for STD screening. However, field supervision visits provided comprehensive spot observations of skills and technique. There was also some difficulty trying to quantify the amount of follow-up effort it took to sustain services.

Adequacy of Pap smears done by CHA/Ps was reviewed by the project coordinator, through the YKHC Pap registry. Of the 256 Pap smears done by the 8 intervention CHA/Ps during the study period, only 3 (1%) Pap smears were unsatisfactory and only 24 (10.9%) lacked endocervical cells. There were some additional Paps that were limited by inadequacy of slide preparation (9.7%) and incomplete documentation on the lab form (9.4%). The three Pap tests rated unsatisfactory on the cytology report were obtained by three different health aides. Similarly, the other limitations were distributed across all the CHA/Ps indicating a similar skill level. The yield of almost 90% of specimens with endocervical cells compares favorably with the yield obtained by experienced clinicians working in a variety of settings.

The following table represents the overall Pap adequacy rates for the 18 month study period for each CHA/P who received training:



Component 3: Consumer satisfaction with the CHA/P-delivered preventive health services.

Overall, women who were surveyed and had used village-based women's preventive health services provided by health aides were satisfied with services. About 40% of the women surveyed had used these services by the health aide and 60% had not. We found that 24% of women surveyed stated they did not know these services were being offered by health aides in village clinics. 70% of all women surveyed reported that they would go to the health aide in their village clinic for women's preventive health services, about 14% of women surveyed said they would not be seen by a health aide for these services, and 14% were unsure if they would. The most common reason these few women stated for not wanting to be seen by the health aide for these services was that they are embarrassed because they know the health aides too well. Other less common reasons were that it's better in Bethel, confidentiality was a problem, they were unsure if health aides could do a good job with the exams, and a few women reported that their health aides were unfriendly.

About 14% of women chose health aides as their first preference for providing women's cancer screening, 18% chose PHNs as their first choice, 17% chose doctors, 12% chose advanced practice providers, and 33% had no preference. It is interesting to note that when women were asked to rank their first 5 choices for provider and location preference for women's cancer screening services, the female health aide in the village clinic was ranked most frequently as first choice for 25% of the women surveyed and second choice for 12% of the women surveyed. The following table shows how women

ranked provider and provider gender preferences for women's health services either in the village clinic or in Bethel clinics.

Provider Type and	1st choice	2nd choice	3rd choice	4th choice	5th choice
Fe HA/village clinic	25%	12%	21%	8%	5%
Ma HA/village clinic	0%	0%	0%	1%	1%
Fe PHN/village clinic	20%	26%	23%	10%	10%
Ma PHN/village clinic	1%	0%	0%	5%	6%
Fe MD/village clinic	20%	22%	27%	11%	12%
Ma MD/village clinic	0%	2%	4%	10%	6%
Fe PHN/Bethel clinic	9%	20%	10%	22%	16%
Ma PHN/Bethel clinic	0%	0%	0%	5%	0%
Fe MD/Bethel clinic	19%	10%	7%	21%	20%
Ma MD/Bethel clinic	2%	2%	3%	2%	7%

As can be seen from this table, female gender was ranked very high for provider preference for women's health services, as was staying in village clinic for these services.

Some bias is expected from any survey based on self-reported information. The potential for under-reporting as well as over-reporting must be kept in mind. The response rate for the women we were able to contact was good in each of the four villages and the refusal rate was low.

Comuonent 4: Effectiveness of community education/client patient education.

Interpretation of the effectiveness of the focus group/educational events are limited due to the difficulty analyzing qualitative data. Due to the number and nature of the open-ended questions and the unexpected large turnout of women in one village, it was not possible to code answers effectively. However, some useful information was collected and most importantly, both CHA/Ps and women who participated in the focus group events felt they were highly successful. Anecdotes from women and CHA/Ps describe them as an effective means of providing a safe environment for support in talking about fears and personal experiences around cancer and other women's health issues. Many women felt they learned something valuable from sharing information with other women, and having the opportunity to ask questions. Most of the women rated the videos very high because

they related to the Native women in the video. CHA/Ps have expressed an interest in receiving training to conduct similar events in their villages.

Effectiveness of some of the other educational methods used during this project such as posters, brochures, or one on one patient education during clinic visits has not been measured due to constraint of time, money and personnel.

One purpose of the focus groups was to get-community input on preferences for receiving health education. The most frequent responses were from public TV programs and local cable videos presented in both English and Yup'ik, from health care providers during clinic visits, from community events such as health fairs, support groups or the "Women's Night Out," and from female relatives and elders in the community.

Discussion

Comoonent 1: Impact on screening prevalence rates for selected diseases/behaviors.

It is difficult to generalize the impact on screening prevalence rates for selected diseases to the entire Y-K Delta population due to the small sample size. The Pap screening prevalence rates appear to have gone down slightly in the 8 villages in the study from the baseline rate of 62%, however, they were reported over a two year period in the baseline data and reported for only 18 months in this study. There was a significantly higher Pap screening rate for the 4 intervention villages where 50% of women over 18 had at least one Pap smear within the last 18 months, than in the 4 control villages where only 37% of women had at least one Pap smear within the 18 month study period. Health Aides had a significant positive impact on the number of Paps done in the 4 intervention villages since they provided 44% of all the Paps done by all providers for those women. Although we do not have baseline data for the screening rates for clinical breast exams or STDs tests, we can assume from the positive impact on Pap screening that there was also a positive impact on the number of clinical breast exams and STD tests done for women in the intervention villages.

Health aides addressing tobacco use during routine clinic visits was very low for all health aides in both groups. It was much higher for intervention CHA/Ps during women's preventive screening visits as it is part of the routine history for a "well" visit. The high rate of tobacco use among CHA/Ps may need to be addressed first in order to be able to develop an effective tobacco cessation campaign or program for the entire population.

Another positive impact on screening rates was the outreach effort by CHA/Ps to screen older women. Of the 96 women screened who were over 40, 39% of them had never had a Pap test. Older women beyond childbearing years do not access health care as readily as younger women in many cases. CHA/Ps in the pilot project have successfully addressed language and cultural barriers as well as transportation and financial barriers by providing these services in their village clinics.

Component 2: Quality assurance of preventive health services delivered by CHA/Ps.

The data reported in this evaluation objectively support CHA/Ps ability to achieve competency for all targeted services after a modest amount of instruction and supervisory observation. The challenge however is in trying to sustain the efforts of health aides to provide these services on an ongoing basis. Institutionalizing village-based women's cancer preventive services as part of the CHA/Ps daily clinical routine required at least biweekly telephone contact to counsel, help problem solve and encourage them to continue providing preventive services. Preventive care frequently takes a back seat to the more urgent, problem oriented care they are faced with on a daily basis in village clinics.

The most common problem cited by health aides for not doing preventive care is that they are too busy with acute care to schedule well woman's exams and repeat Pap smears. Other common problems identified by CHA/Ps are lack of space; especially when other itinerant providers such as MDs, PHNs, mental health, audiologist and dentist, are visiting; lack of support from other clinic staff; difficulty getting patients to come in; and scheduled patients not showing up for appointments. Another problem identified is some women do not want to see CHA/Ps for a pelvic exam if they are close friends or relatives of CHA/P.

Progress was made toward finding viable solutions to these problems. The importance of ongoing support from an experienced clinician cannot be emphasized enough. Through regular phone contact and occasional field visits, the project coordinator was able to help identify problems and concerns and encourage CHA/Ps to formulate their own plans to address these problems, give incentives, communicate changes in policies, give procedure reminders, and send educational information and updates. Support and encouragement from all staff involved with health aides would be beneficial to sustain services including the SIs (supervisory instructors) during their village visits, other training instructors, and other itinerant providers such as MDs and PHNs. Other possible methods

to sustain program are use of back up CHA/Ps and float CHA/Ps to cover clinic so CHA/Ps can schedule well women's exams and having a few qualified "itinerant" CHPs travel to other villages to provide women's cancer screening services.

Component 3: Consumer satisfaction with the CHAR-delivered preventive health services.

It is clear from the results of the survey, that most women support village-based women's preventive health services performed by health aides. Since 24% of women surveyed stated they were unaware of these services being offered by health aides, YKHC Community Health Aide Program (CHAP) may want to consider an advertising campaign to increase awareness of these services among people in villages involved.

Other recommendations for increasing utilization of these services are to put increased emphasis on confidentiality issues in the clinics during training and to provide counseling and/or educational update on patient confidentiality to the CHA/Ps currently: providing these services, to implement itinerant travel for CHA/Ps to travel to villages where they are not as intimately involved with the community, and to coordinate community education activities in villages to include women's health issues. Further analysis of the data collected from this survey may be beneficial to discover other barriers to utilization of women's cancer and STD screening services in village clinics by health aides.

Component 4: Effectiveness of community education/client patient education.

Although it is often difficult to measure the effectiveness of public education efforts, it is well documented in the public health literature that well planned, multi-faceted, culturally appropriate and community-based programs can be effective.' Using the information obtained from the focus groups, collaborating with YKHC health education and the local radio and public TV stations, and with input from CHA/Ps and their advisory council, it would be possible for YKHC to build upon and expand the community education efforts developed and implemented during this project in order to increase utilization of village-based preventive health services. Also, emphasizing community education during CHA/P training and offering workshops to CHA/Ps on organizing community events and/or giving presentations would be an important strategy toward

having CHA/Ps disseminate information on their own in their villages as well as other villages.

Methods that could be used for measuring community health education effectiveness would be to implement use of a pre-test and post-test knowledge, attitude, and behavior survey to assess learning which occurs due to an event or presentation, and/or to track the number of persons encountered and/or numbers and types of materials distributed for a health education program or campaign, maintain documentation of radio or television stations and their area of coverage by village, the dates of radio PSA, call-in talk shows, video PSA airing or other public media education efforts, and then correlate the number of Paps provided by village by radio or television service area for a specified subsequent time period.

In summary, the evaluation of the pilot project initiatives demonstrates that it is feasible to increase access to the selected health services for women in the Y-K Delta by providing a carefully planned advanced training and ongoing support program for CHA/Ps to be able to provide competent, quality preventive health care services, including community education efforts, in their villages. Due to the positive outcome of this evaluation, YKHC has decided to work toward incorporating these activities into the existing program.